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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,908

06/14/2005

Jurgen Osterlanger

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EXAMINER

WAITS, ALAN B

ART UNIT

PAPER NUMBER

4112

MAIL DATE

DELIVERY MODE

10/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/538,908

Applicant(s)

OSTERLANGER, JURGEN

Examiner

Alan B. Waits

Art Unit

4112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/14/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of the following informalities: "Figure 1" appears in the abstract.

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: Section headings are missing.

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Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

#### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: The number which correspond to the elements are misnumbered. For example, Applicant refers to screw mechanism as (11,12) and (11,22). Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1,2,4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto et al. DE 10016197.

Okamoto discloses a similar device comprising a(n):

Re clm 1:

- Rolling-body screw mechanism (fig 1)
- Housing divided into two housing parts (3b and 4, fig 2) transversely to the axis of rotation
- Hollow rotor (22, fig 2) mounted rotatably by means of a rolling mount (34, fig 2) through which a threaded spindle (5, fig 2) being of the rolling-body screw mechanism is led
- Threaded spindle (5, fig 2) being mounted rotatably on a spindle nut (31, fig 2) of the rolling-body screw mechanism (fig 1)
- Spindle nut (31, fig 2) being drive-connected to the rotor (22, fig 2)
- Rolling mount (34, fig 2) provided on only one housing part (3b, fig 2) of the housing (3b and 4, fig 2)

Re clm 2:

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- Rolling body mounting is formed by a multi-row angular ball bearing (34, fig 2), the outer ring (32, fig 2) of which is seated in a housing bore (the cavity formed below 32 as show by a decrease in wall thickness of the housing, fig 2) of one of the housing parts (3b, fig 2)

Re clm 4:

- Rolling mounting (34, fig 2) is arranged axially (34, fig 2 is located axially outward from 31, fig 2) within a construction space occupied by the spindle nut (31, fig 2)

Re clm 5:

- Rotor (22, fig 2) is arranged axially (22, fig 2 is located axially outward from 31, fig 2) within a construction space occupied by the spindle nut (31, fig 2)

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. DE 10016197 as applied to claim 2 above, and further in view of Onodera et al. USP 6186268.

Okamoto discloses all of the claimed subject matter as described above.

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Okamoto does not disclose ball grooves of the angular ball bearing being formed on the outer circumference of the spindle nut (re clm 3), a rolling-body screw mechanism with an outer deflection for the balls (re clm 6), or a rolling-body screw mechanism with an outer deflection for the balls where the spindle nut is provided in a region radially between the threaded spindle and the rolling mounting with a return bore for the balls of the ball screw mechanism (re clm 7)

Onodera teaches ball grooves (19b, fig 2) of the angular ball bearing (4 and 19b, fig 2) being formed on the outer circumference of the spindle nut (19, fig 2) for the purpose of reducing the number of components which further reduces cost, reducing the outer diameter of the product, and reducing inertia (c 6, lines 42-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Okamoto and use ball grooves of the angular ball bearing being formed on the outer circumference of the spindle nut, as taught by Onodera, for the purpose of reducing the number of components which further reduces cost, reducing the outer diameter of the product, and reducing inertia.

Onodera also teaches a rolling-body screw mechanism (fig 1) with an outer deflection (45, fig 2) for the balls (3, fig 2) for the purpose of smoothly converting rotation of the nut into movement in the lateral direction (c 2, lines 25-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Okamoto and use a rolling-body screw mechanism with an outer deflection for the balls, as taught by Onodera, for the purpose of smoothly converting rotation of the nut into movement in the lateral direction.

Onodera further teaches a rolling-body screw mechanism (fig 1) with an outer deflection (45, fig 2) for the balls (3, fig 2) where the spindle nut (19, fig 2) is provided in a region radially between the threaded spindle (2, fig 2) and the rolling mounting (4 and 19b, fig 2) with a return bore (45, fig 2) for the balls (3, fig 2) of the ball screw mechanism (fig 1) for the purpose of reducing the number of components which further reduces cost, reducing the outer diameter of the product, reducing inertia, and smoothly converting rotation of the nut into movement in the lateral direction (c2, lines 25-28 and c6, lines 42-46).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Okamoto and use a rolling-body screw mechanism with an outer deflection for the balls where the spindle nut is provided in a region radially between the threaded spindle and the rolling mounting with a return bore for the balls of the ball screw mechanism, as taught by Onodera, for the purpose of reducing the number of components which further reduces cost, reducing the outer diameter of the product, reducing inertia, and smoothly converting rotation of the nut into movement in the lateral direction.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. DE 10016197 as applied to claim 1 above, and further in view of Yost et al. USP 6644432.

Okamoto discloses all of the claimed subject matter as described above.

Okamoto does not disclose a rotor that is provided on its circumference with a driving surface for the drive belts.



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Yost teaches a rotor (70, fig 1) that is provided on its circumference with a driving surface for the drive belts.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Okamoto and use a rotor that is provided on its circumference with a driving surface for the drive belts for the purpose of transmitting the drive force to another rotor.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saruwatari et al. USP 6629578, Tatewaki et al. USP 20020148972, and Cheng USP 6155376. Each discloses a similar rolling-body screw mechanism.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan B. Waits whose telephone number is 571 - 270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David V. Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ABW



DAVID BRUCE  
SUPERVISORY PATENT EXAMINER